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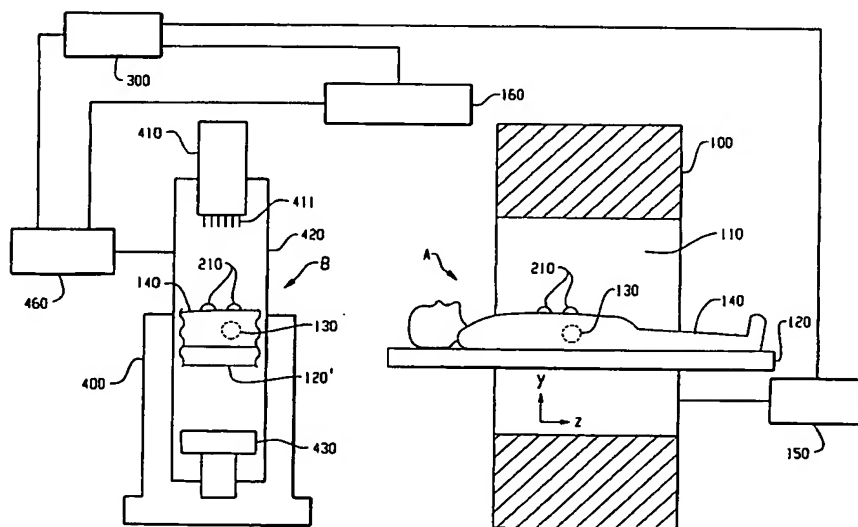
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[Continued on next page]

(54) Title: **TARGET TRACKING METHOD AND APPARATUS FOR RADIATION TREATMENT PLANNING AND DELIVERY**



(57) Abstract: A target treatment apparatus for treating a target region (130) within a subject (140) is provided. The apparatus includes an MRI apparatus (100) for generating MR images during an MR scan of the subject disposed within an examination region (110). The apparatus further includes an MRI localizer (150) for receiving the image data from the MRI apparatus wherein the target (130) is localized and a reference marker localizer (160, 160') for non-invasively receiving reference data from a plurality of reference points disposed in proximity to the target wherein the reference points are localized. A tracking processor (300) is also included in the apparatus for receiving localized data from the MRI localizer wherein a relationship between the reference markers and the target region is generated.



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